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ABSTRACT

An apparatus for conditioning gas for use in a medical procedure, the gas being received into the apparatus from a gas source. The apparatus comprises a housing defining a chamber having an entry port and an exit port. The housing contains at least a humidification means comprising a container for liquid, such as at least one liquid retaining layer that is disposed within the chamber in the path of travel of the gas for humidifying the gas as it passes through the chamber. A humidity sensor may be disposed within the chamber that senses the humidity of the gas exiting the chamber. A monitoring circuit is connected to the humidity sensor that detects when the chamber requires a recharge of liquid based on the humidity of the gas in the chamber, and generates a recharge signal indicative thereof. A charging port on the housing provides access into the chamber to recharge the chamber with water. Alternatively, a backup container of liquid is provided to continuously supply liquid to the humidification means. A heating element and temperature sensor are also disposed within the chamber. A control circuit further regulates the temperature of the gas exiting the chamber.